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File

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STAT

Bob N. ..... and John R. .....

Attached is a preliminary outline of the Lamp Study report which and I worked out. STAT

The summary and summary tabulation will provide you ready reference data and will be organized for quick reading. The Lamp data sheets will provide more detail on each lamp with a uniform arrangement of presentation. The definition of terms and technical discussion will define the basis for the report and make it precise and useful for design of projectors. The spectral distribution is dependent only on the filament or arc type and temperature and therefore each distribution curve can cover many lamps.

Please give me a call at STAT have any comments.

Regards,

STAT

DDR - DUPE

June 15, 1965

[redacted] STAT

TASK NO. II
ARTICLE I. STATEMENT OF WORK

The Contractor shall conduct studies and investigations for accomplishing the objectives of this task. The work encompassed in this task is preliminary and pathfinding in nature and the specifics may be revised from time to time by the Technical Representative of the Contracting Officer. If certain items warrant further work beyond the preliminary and pathfinding phase and require more extensive work than is appropriate for this task, then those items shall be set forth in separate tasks if performed by the Contractor.

Item 5. Lamps for rear projection viewers

Review literature and make an economic and performance per watt profile of the types of lamps applicable to rear projection viewers, such as: 1000 watt xenon, mercury xenon, quartz iodine, and of heat rejection, visible light level and spectral distribution obtainable from band pass filters. The analysis will be presented in a summary technical report submitted in 3 copies. (Plus 2 copies to the contracting officer.) The analysis and report preparation will be accomplished jointly by [redacted] STAT STAT

The enclosed outline is an indication of the information to obtained in the study and the general organization of the report. This outline is tentative and may change as the study progresses.

Preliminary Outline

I. Report

1. Summary
   - 1.1 Introduction
   - 1.2 Summary
   - 1.3 Summary tabulation

2. Definition of terms

3. Technical discussion
   - 3.1 Considerations leading to heat at film.
     - 3.1.1 Cooling at lamp
     - 3.1.2 Cooling at film
   - 3.2 Form factor of filament or arc
   - 3.3 Importance of BxA product
   - 3.4 Discussion of efficiency, conversion and luminous efficiency
   - 3.5 Filters, dichroic and heat absorb
   - 3.6 Lamp tolerences re replacement time
   - 3.7 Spectral distr.
   - 3.8 Polar B distr.
   - 3.9 Possible discrepancies in various mfgr date

4. Tabulations and data sheets for specific lamps

5. Bibliography

II. Lamp data sheets

1. Lamp type and description
2. Wattage
3. Voltage
4. Filament or arc type
5. Av. life
6. Burning position
7. Rated lumens
8. Color temp. or spectral distribution reference
9. Filament or arc dimensions
10. Rated brightness
11. Ventilation

III. Spectral distribution curves

1. Tungsten at various temp.
2. Xenon
3. Mercury
4. Mercury xenon
5. Carbon
6. Visibility curve
7. Solar curve

IV. Summary tabulation

1. Table will be organized by:
   - Lamp type
   - Wattage
   - Manufacturer

2. Data Columns
   - 2.1 Lamp replacement cost
     - Lamp cost
     - Cost per lamp hour life
   - 2.2 Heat/Light Ratio at the film gate
   - 2.3 Filament or arc form factor rating
   - 2.4 Screen illumination for standard assumed conditions (per watt and total)
   - 2.5 Orientation restriction
   - 2.6 Cooling requirement at lamp
   - 2.7 Power supply